



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2020-0345; Product Identifier 2019-NM-154-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; AVOX System Inc. (formerly Scott Aviation) Oxygen Cylinder and Valve Assemblies; and Oxygen Valve Assemblies**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to adopt a new airworthiness directive (AD) for certain AVOX System Inc. (formerly Scott Aviation) oxygen cylinder and valve assemblies; and oxygen valve assemblies; installed on but not limited to various transport airplanes. This proposed AD was prompted by reports of cylinder and valve assemblies having oxygen leakage from the valve assembly vent hole, caused by the absence of a guide that maintains appropriate spacing between certain parts. This proposed AD would require an inspection of the oxygen valve assemblies, and oxygen cylinder and valve assemblies, to determine the serial number of the valve, cylinder, and entire assembly. For assemblies and parts with certain serial numbers, this AD would require a detailed inspection for correct spacing of the gap between the bottom of the packing retainer and top of the valve body on the assemblies, and replacement of assemblies having unacceptable gaps. The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact AVOX Systems Inc., 225 Erie Street, Lancaster, NY 14086; telephone 716-683-5100; Internet <https://www.safran-aerosystems.com>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0345; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the regulatory evaluation, any comments received,

and other information. The street address for Docket Operations is listed above.

Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Darren Gassetto, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7323; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2020-0345; Product Identifier 2019-NM-154-AD” at the beginning of your comments. The FAA specifically invites comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. The FAA will consider all comments received by the closing date and may amend this NPRM because of those comments.

The FAA will post all comments, without change, to <https://www.regulations.gov>, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this NPRM.

**Discussion**

The FAA has received reports of cylinder and valve assemblies having oxygen leakage from the valve assembly vent hole, caused by the absence of a guide that maintains appropriate spacing between certain parts. It was determined that this guide was not installed during manufacturing, resulting in the O-ring and backup ring not being

sufficiently constrained with the valve assembly. This condition, if not addressed, could result in oxygen leakage from the cylinder, leading to decreased or insufficient oxygen supply during a depressurization event; and heating or flow friction, which could cause an ignition event in the valve assembly.

### **Related Service Information Under 1 CFR Part 51**

The FAA reviewed AVOX Systems Inc., Alert Service Bulletins 10015804-35-01, Revision 02, dated October 16, 2019; 10015804-35-02, Revision 2, dated October 31, 2019; and 10015804-35-03, Revision 02, dated October 15, 2019. This service information describes procedures for an inspection to determine the serial number of the oxygen cylinder and valve assemblies; and the oxygen valve assemblies; a detailed inspection for correct spacing of the gap between the bottom of the packing retainer and top of the valve body on the assemblies. These documents are distinct since they apply to different assembly part numbers. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

### **FAA's Determination**

The FAA is proposing this AD because the FAA evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

### **Proposed AD Requirements**

This proposed AD would require an inspection of the oxygen valve assemblies, and oxygen cylinder and valve assemblies, to determine the serial number of the valve, cylinder, and entire assembly. For assemblies and parts with certain serial numbers, this

AD would require a detailed inspection for correct spacing of the gap between the bottom of the packing retainer and top of the valve body on the assemblies, and replacement of assemblies having unacceptable gap (removing affected assemblies and installing serviceable assemblies). This proposed AD would also require reporting and the return of affected parts to the manufacturer.

### **Clarification of Inspection Terminology**

In this proposed AD, the “visual inspection” specified in the AVOX Systems Inc., service bulletins is referred to as a “detailed inspection.” The FAA has included the definition for a detailed inspection in this proposed AD.

### **Clarification of Inspection Requirements**

AVOX Systems Inc., Alert Service Bulletins 10015804-35-01, Revision 02, dated October 16, 2019; 10015804-35-02, Revision 2, dated October 31, 2019; and 10015804-35-03, Revision 02, dated October 15, 2019, specify to inspect to determine the serial number of the oxygen cylinder and valve assemblies; and the oxygen valve assemblies. However, the valve and cylinder that are part of those assemblies must also be inspected, not just the assemblies themselves. Therefore, in this proposed AD, the FAA specifies to inspect the oxygen valve assemblies, and oxygen cylinder and valve assemblies, to determine the serial number of the valve, cylinder, and entire assembly.

### **Costs of Compliance**

The FAA estimates that this proposed AD affects up to 3,034 oxygen cylinder and valve assemblies; and oxygen valve assemblies; installed on various transport category airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

**Estimated costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Serial number inspection	1 work-hour X \$85 per hour = \$85	None	\$85	\$257,890
Reporting	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$257,890

The FAA estimates the following costs to do any necessary follow-on actions that would be required based on the results of the proposed inspection. The FAA has no way of determining the number of aircraft that might need these actions:

**On-condition costs \***

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>
Detailed inspection	1 work-hour X \$85 per hour = \$85	None	\$85

\*The FAA has received no definitive data on the cost of on-condition replacements.

According to the manufacturer, some or all of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected individuals. The FAA does not control warranty coverage for affected individuals. As a result, the FAA has included all known costs in our cost estimate.

**Paperwork Reduction Act**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB control number. The control number for the collection of information required by this proposed AD is 2120-0056. The

paperwork cost associated with this proposed AD has been detailed in the Costs of Compliance section of this document and includes time for reviewing instructions, as well as completing and reviewing the collection of information. Therefore, all reporting associated with this proposed AD is mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national

Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a “significant regulatory action” under Executive Order 12866,

(2) Will not affect intrastate aviation in Alaska, and

(3) Will not have a significant economic impact, positive or negative, on a

substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive

(AD):

**AVOX Systems Inc. (formerly Scott Aviation):** Docket No. FAA-2020-0345; Product Identifier 2019-NM-154-AD.

#### **(a) Comments Due Date**

The FAA must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to AVOX Systems Inc. (formerly Scott Aviation) oxygen cylinder and valve assemblies having part number (P/N) 89794077, 89794015, 891511-14, 806835-01, 807982-01, or 808433-01; and oxygen valve assemblies (body and gage assemblies) having P/N 807206-01. These assemblies might be installed on, but not limited to, the aircraft identified in paragraphs (c)(1) through (12) of this AD, certificated in any category.

(1) Airbus SAS Model A300 B2-1A, B2-1C, B2K-3C, B2-203, B4-2C, B4-103, and B4-203 airplanes.

(2) Airbus SAS Model A300 B4-601, B4-603, B4-620, B4-622, B4-605R, B4-622R, F4-605R, F4-622R, and C4-605R Variant F airplanes.

(3) Airbus SAS Model A310-203, -204, -221, -222, -304, -322, -324, and -325 airplanes.

(4) Airbus SAS Model A318-111, -112, -121, and -122 airplanes.

(5) Airbus SAS Model A319-111, -112, -113, -114, -115, -131, -132, -133, and -151N airplanes.

(6) Airbus SAS Model A320-211, -212, -214, -216, -231, -232, -233, -251N, -252N, -253N, -271N, -272N, and -273N airplanes.

(7) Airbus SAS Model A321-111, -112, -131, -211, -212, -213, -231, -232, -251N, -252N, -253N, -271N, -272N, -251NX, -252NX, -253NX, -271NX, and -272NX airplanes.

(8) Airbus SAS Model A330-201, -202, -203, -223, -243, -301, -302, -303, -321, -322, -323, -341, -342, -343, and -941 airplanes.

(9) Airbus Model A340-211, -212, -213, -311, -312, -313, -541, and -642 airplanes.

(10) ATR – GIE Avions de Transport Régional Model ATR42-200, -300, -320, and -500 airplanes.

(11) ATR – GIE Avions de Transport Régional Model ATR72-101, -102, -201, -202, -211, -212, and -212A airplanes.

(12) The Boeing Company Model 747-8 series airplanes.

**(d) Subject**

Air Transport Association (ATA) of America Code 35, Oxygen System.

**(e) Unsafe Condition**

This AD was prompted by reports of cylinder and valve assemblies having oxygen leakage from the valve assembly vent hole, caused by the absence of a guide that maintains appropriate spacing between certain parts. The FAA is issuing this AD to address oxygen leakage from the cylinder, which could result in decreased or insufficient oxygen supply during a depressurization event; and heating or flow friction, which could cause an ignition event in the valve assembly.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Definition of Detailed Inspection**

For the purposes of this AD, a detailed inspection is an intensive examination of a specific item, installation, or assembly to detect damage, failure, or irregularity. Available

lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirror, magnifying lenses, etc., may be necessary. Surface cleaning and elaborate procedures may be required.

**(h) Identification of Affected Cylinder and Valve Assemblies**

Within 60 days after the effective date of this AD, inspect the oxygen valve assemblies, and oxygen cylinder and valve assemblies, to determine if the serial number of the valve, cylinder, and entire assembly, is listed in Appendix 1, “Affected Shipments,” of the applicable service information identified in paragraphs (h)(1) through (3) of this AD. A review of airplane maintenance records is acceptable in lieu of this inspection if the serial numbers can be conclusively determined from that review.

(1) AVOX Systems Inc., Alert Service Bulletin 10015804-35-01, Revision 02, dated October 16, 2019.

(2) AVOX Systems Inc., Alert Service Bulletin 10015804-35-02, Revision 2, dated October 31, 2019.

(3) AVOX Systems Inc., Alert Service Bulletin 10015804-35-03, Revision 02, dated October 15, 2019.

**(i) Inspection of the Gap, Parts Marking Actions, and Replacement**

If, during any inspection or records review required by paragraph (h) of this AD, any oxygen valve assembly, valve or cylinder of an oxygen cylinder and valve assembly, or oxygen cylinder and valve assembly having an affected serial number is found: Before further flight, do a detailed inspection for correct spacing of the gap between the bottom of the packing retainer and top of the valve body, in accordance with paragraph 3.C. of

the Accomplishment Instructions of the applicable service information identified in paragraphs (h)(1) through (3) of this AD.

(1) If the gap is found to be acceptable, before further flight, do the parts marking actions in accordance with paragraph 3.D.(1) of the Accomplishment Instructions of the applicable service information identified in paragraph (h)(1) through (3) of this AD.

(2) If the gap is found to be unacceptable, as defined in the applicable service information identified in paragraphs (h)(1) through (3) of this AD, before further flight, remove the affected assembly, in accordance with paragraphs 3.D.(2) or 3.D.(3), as applicable, of the Accomplishment Instructions of the applicable service information identified in paragraphs (h)(1) through (3) of this AD; and replace with a serviceable assembly.

**(j) Reporting and Return of Parts**

(1) Report the results of the inspection required by paragraph (i) of this AD within the applicable time specified in paragraph (j)(1)(i) or (ii) of this AD. Report the results in accordance with the paragraph 3.D.(1)(a), of the Accomplishment instructions of the applicable service information identified in paragraphs (h)(1) through (3) of this AD.

(i) If the inspection was done on or after the effective date of this AD: Submit the report within 30 days after the inspection.

(ii) If the inspection was done before the effective date of this AD: Submit the report within 30 days after the effective date of this AD.

(2) If, during an inspection required by paragraph (i) of this AD, any gap is found to be unacceptable, within the applicable time specified in paragraph (j)(2)(i) or (ii) of this AD, return the assembly to the manufacturer in accordance with paragraph 3.D.(2) or

3.D.(3), as applicable, of the Accomplishment Instructions of the applicable service information identified in paragraphs (h)(1) through (3) of this AD.

(i) If the inspection was done on or after the effective date of this AD: Return the assembly within 30 days after the inspection.

(ii) If the inspection was done before the effective date of this AD: Return the assembly within 30 days after the effective date of this AD.

**(k) Parts Installation Limitation**

As of the effective date of this AD, no AVOX Systems Inc., oxygen valve assembly, or valve or cylinder that is part of an oxygen cylinder and valve assembly, or oxygen cylinder and valve assembly having an affected serial number identified in Appendix 1, “Affected Shipments,” of any AVOX Systems Inc., service information identified in paragraphs (h)(1) through (3) of this AD, may be installed on any airplane unless the requirements of paragraph (i) of this AD have been accomplished on that affected assembly.

**(l) Credit for Previous Actions**

This paragraph provides credit for the actions specified in paragraphs (h) or (i) of this AD, if those actions were performed before the effective date of this AD using the service information specified in paragraphs (1)(1) through (5) of this AD.

(1) AVOX Systems Inc., Service Bulletin 10015804-35-01, dated March 6, 2019.

(2) AVOX Systems Inc., Alert Service Bulletin 10015804-35-01, Revision 01, dated July 9, 2019.

(3) AVOX Systems Inc., Alert Service Bulletin 10015804-35-02, Revision 1, dated September 4, 2019.

(4) AVOX Systems Inc., Service Bulletin 10015804-35-03, dated April 11, 2019.

(5) AVOX Systems Inc., Alert Service Bulletin 10015804-35-03, Revision 1, dated May 21, 2019.

**(m) Paperwork Reduction Act Burden Statement**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory as required by this AD; the nature and extent of confidentiality to be provided, if any. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

**(n) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the

manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(o) Related Information**

(1) For more information about this AD, contact Darren Gassetto, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7323; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

(2) For service information identified in this AD, contact AVOX Systems Inc., 225 Erie Street, Lancaster, NY 14086; telephone 716-683-5100; Internet <https://www.safran-aerosystems.com>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

Issued on April 23, 2020.

Lance T. Gant, Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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